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SURGICAL AND PRACTICAL OBSERVATIONS

ON THE

DISEASES OF THE EAR,

WITH THE

NEW MODE OF TREATING DEAFNESS.

TO WHICH IS ADDED AN APPENDIX,

Containing a Treatise on Catarrh and the

New System of Treating it

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Acrol mentions the case of a "woman who had been deaf a long time, and was suddenly seized with acute pain in the ear, and violent convulsions without apparent cause. The convulsions returned several times and became more violent. A piece of lint, moistened with oil and laudanum, was introduced into the meatus, and on removing it the next day, several small round worms were observed upon it, and from that time all unpleasant symptoms disappeared." Valsalva reports a case somewhat similar, but of longer continuance, in which the membrane of the tympanum was destroyed and the worms made a nest and crept up to the brain. The patient became delirious and died in that state. A post mortem examination was made and the worms were seen issuing from the brain to the tympanum and much resembled the common caterpillar.

It will also be remembered by my readers that after Titus had sacked Jerusalem and was lying encamped on open ground to watch its complete destruction by fire, according to the prophecy of our Lord, he slept on the ground, and during his sleep a wasp crept into his ear and lodged itself in his head. While living he always said he felt as if something were eating him inside his forehead. Many smiled, none understood him. He lived years in agony, at last he died raving mad, always saying something was eating his head. Upon opening which, after his death, it was found that his head had been eaten into cells and was quite alive with numberless wasps.

Perhaps it is forgotten that the fashion of sun-bonnets was not invented so much to prevent the face from being burned by the sun as to prevent the ears from ear-wigs, of which in Europe every one has great fear; for a child playing in a garden or in fields will ultimately either roll on the grass or lie down on it, and it was for this sun-bonnets were invented. But a better precaution for any one living in the country, and who is likely to come in contact with trees and shrubs, which swarm with all kinds of insects, is to place a small piece of cotton in the ear previous to going out.

If these creatures can be seen in the meatus, they must immediately be removed with the forceps, if they be too small or numerous to be seized by the instrument, a pledget of lint covered with oil and honey may be introduced, to which they will sometimes adhere; a few drops of the infusion of tobacco in oil of almonds may be passed down the canal, or the smoke of the tobacco may be used, which does not appear to injure the tube, but it is fatal to its noxious inmates; if the Tympanum be exposed, and the worms are contained in it, the smoke of the tobacco may be thrown through the Eustachian tube, and be thus brought into more immediate contact with them. In all cases it is better to apply to an experienced physician, so that any fatal consequences which may ensue can be prevented.

My reader must not think that I have dwelt too long, but the habits of my mind and the course of my experience incline me to seek for useful facts, to state them with precision and simplicity, as I have observed them with diligence; as they are precious to the young artist, to books I make no appeal, what I have seen and tried, that only do I presume to write in relating plain facts to my readers. I must be occasionally useful, and may confidently call the attention of my readers while exemplifying practical facts from my own daily experience.

I am persuaded it is my duty to call particular attention to parents and guardians not to neglect the fetid discharge from the ear, more properly called *Otorrhoea*, as this itself being neglected may in course of time create such insects as we have spoken of above, as far the greater number of cases of discharge is of a malignant nature, and is so immediately connected with the throat and organs of breathing and swallowing that it may affect the head, nostrils, and even the functions of the brain itself, which sometimes may result in a most fatal manner.

The pathological connection of the Ear and Throat may not, to a casual observer, be so evident as to the practitioner, who may himself be so slow at first to perceive the really intimate connection between the two, while one becomes the recipient of the maladies of the other by means of the common medium, the Eustachian Tube, the continuity of the mucous membrane, and the sympathetic connection between the nerves

the Throat and those of the Ear. No student can devote himself to the study of the organ of Hearing without being drawn to the examination of the larynx. I myself must confess that in treatment of the affections of the Ear it leads to almost involuntary diagnosis of the Throat; and I feel certain that every surgeon will agree with me when I declare that these two important and delicate organs conduce to clear up a great obscurity in the treatment of each, and in an especial manner conduce to great success in the cure of the diseases of the two respective organs so important to the happiness and well-being of mankind. An obstruction of the Eustachian Tube, from whatever cause arising, causing the stoppage of the free communication between the Ear and Larynx, will inevitably produce deafness. The only complete cure of a deafness of this kind is complete opening of the Tube Eustachiana. Many surgeons are of opinion that in cases of deafness arising from obstruction of this tube, and which have been considered as incurable, the Hearing power may be restored by the puncturing of the *membrana Tympani* and neglecting the Tube itself. From my own humble experience, I have found this mode of cure to be either only partial or temporary, simply because when the Tube is not open the atmospheric current is withdrawn from the interior of the membrane, and Deafness ensues under all circumstances of occlusion.

The free passage between the Ear and Throat is prevented in many ways. It is quite usual in common catarrh that the fluid which collects in nasal ducts and throat during severe Winter weather should extend as far as the Eustachian Tube, so as to close it partially or entirely. It is not unfrequently occurs that the engorged state of the *caecum membrane* remains after all other bad effects have disappeared, and permanently obstructs the Hearing. Another cause of obstruction is the secretion of a viscid mucus of the Eustachian tube and *membrana tympani*, which remains undisturbed, frequently for years, without even nature itself making an attempt to expel it.

The worst and most serious malady to which this all-important organ is liable, undoubtedly is the adherence of the sides of *Tuba Eustachiana*, so as almost to obliterate a considerable portion of the tube, for the power of utterance is probably destroyed by it. It results generally from severe fevers, and is sometimes a simple malformation. When this kind of obstruction only touches a portion of the tube so as to form a stricture, it is often cured by timely and judicious treatment. The adhesion may in rare cases be loosened, or the obstructed part of the Tube may be relieved by the careful introduction of a small sized silver catheter being cautiously passed through the catheter that is previously passed through the Eustachian canal. But it is necessary to impress on the mind of the young practitioner, that to insure success of so difficult an operation it will require not only tact and skill, but that experience which can only be acquired by vast experience and practice. In all forms of ordinary obstruction of the passage of connection between the throat and the ear, the use of the catheter is of the utmost necessity, both for remedial and diagnostic purposes. But the use of this small, delicate instrument in the manipulations of an unskilful or an inexperienced operator's hand, may prove of the most baneful consequences to the sufferer. Indeed it is impossible to describe the injuries which may result therefrom, when we take only into slight consideration the delicacy of the structure of the ear, its numerous delicate nerves and ramifications, and how easy it is to disarrange this little organ which I think of all others, so beautifully demonstrates the Wisdom and Goodness of our great Creator.

A great authority on Aural Diseases says "that the only rational means of evacuating the Tube and Tympanum, which is vomiting, is most uncertain in its action on the Ear. I have met with numerous cases in which emetics have been pertinaciously tried without the slightest effect."

I have always fought against the common excuse of practitioners, that stumbling block, which deters many sufferers from the hands of an experienced Aurist, namely, when after examining a patient to say it is nervous deafness, and nothing can be done for it. If any one will take the trouble to closely examine the diseased Ear, by dissection and by physiological facts, I am satisfied it will be found that it is very rare to find a real case of nervous deafness. On the contrary, I have found, during my own experience, that the greater portion of cases set as *nervous deafness* arises from the fact that the great sympathy between the Throat and Ear which arises from the continuity of the mucous membrane of the Throat, which, by means of the Eustachian Tube is carried into the Ear itself, and which is such a fertile source of disease, is not understood in all its importance. The tympanic cavity of the organ of Hearing by the way of the Tube Eustachiana is somewhat less than two inches distant from the larynx in the natural state there is a fine surface of mucous membrane extending throughout the whole length of the Tube between the two organs. Shall we then be surprised if a disease takes its root in one portion of this connecting membrane and should be, with facility and unknown to the sufferer, transferred to the whole surface containing all the same anatomical predisposition to disease. Our readers daily either experience themselves or see their dearest friends suffering from a Catarrh extending from the nasal cavity to the ophthalmic mucous surface and frontal sinuses, and in less than twenty-four hours travels to the mucous cells of the lungs, as it is all like a map of mucous membrane lining. "To the whole length of the intestinal canal, distances compared with which that between the throat and Ear is comparatively insignificant," writes an eminent author on diseases of the Ear, "and there laying the foundation of some of those diseases which,

if not promptly attended to, become diseases whose mention will blanch the cheek of many a loving mother or anxious guardian."

The unvarying uniformity with which a common Catarrh will extend itself from the cavities of nose and throat to the ear along the mucous lining is such a matter of common occurrence that people say as soon as it gets warm I shall hear as well as ever. They forget the root is already laid; the engorgement of the mucous membrane will make a great effort before it can be reduced to a fluid so as to pass by means of increased mucus through the larynx, and very often results in making a serious obstruction to the Hearing by closing the Eustachian tubes and thus begin some of the worst cases of deafness. The engorgement will certainly increase so as to depress the palate and extend to the fauces and throat, and if left without medical aid, is indeed full of danger, the nostrils and throat are filled with its bulk, the bones sorely compressed, as the dizziness in the head and the stupor sufficiently evince; the voice affected, the Hearing injured, the breathing and swallowing interrupted, the sufferer is then in the utmost jeopardy, and that stage fast approaching which may even affect the lungs and the whole system.

Recently, a young man, of the name of James Wilson of Brooklyn, has consulted me in consequence of great difficulty in breathing, which created the greatest alarm in the minds of his aged parents, as it became so intolerable that he could not draw his breath without extreme pain, his throat being very much relaxed. Some told him the disease was incurable, and refused to prescribe, while others, because he spoke imperfectly, pronounced it to be a venereal affection of the nose. Another remarked that the disease must be referred solely to the nose, because the profuse mucus and the acid samies flowed only from the nostrils, to which he applied various remedies, without success. The mother, very much interested in the fate of her son, neglected no occasion of consulting advice while there seemed a chance of cure, and among others we were consulted. After a careful examination, we found it to be *ABRITIS MEDIA*, proceeding from a catarrhal inflammation of the mucous membrane of the tympanic cavity, and extended to the other structures, and obstructed with a mucous accumulation known by the name of Catarrhal and Purulent Otitis, as it is well known to every surgeon that the sub-mucous tissue may be inflamed without the surface of the membrane being involved in other parts of the body, and particularly in the *meatus auditorius*, at the same time we must consider that such a comparatively rare occurrence. After examination, I neglected nothing that might be useful in subduing the great inflammation, which next enabled me to perform my usual operation for removing the obstruction. I was fortunate enough to conduct all the operation with the utmost success. My young patient, who was full of courage and confidence during the whole course of the treatment, is now enjoying the blessings of perfect health. The causes which are apt to superinduce an attack of this kind are:

COLD

The extension of inflammation from the Tonsils or Fauces.

Also inflammation passing through the Eustachian Tube, or from the External Ear.

Or from the Membrana Tympani.

Or from the Mastoid Cells.

Or arising from Exanthematic diseases.

Or from injuries of the Membrana Tympani, with or without a lacerated wound thereof.

Mechanical irritation of the Tube Eustachiana.

Ulceration or destruction of the Membrana Tympani.

Draughts of cold air along the Meatus.

Extension of disease from the Brain, as is the case with Inflammation of the External Ear.

Tympanic Inflammation is said to alternate with Ophthalmia in its production.

And in some cases to have been excited by the sudden suppression of a long continued discharge from a distant part of the body.

Loud noises, such as heavy cannonading, have led to the outbreak of this disease.

SCROFULA

SYPHILITIS

EXHAUSTING MALADIES ACTING AS PRE-

DISPOSING CAUSES.

A FOREIGN BODY IRRITATING THE AUDITORY CANAL.

Wax insensated to extreme hardness may be considered as a foreign irritant.

ERYSIPELAS OF THE SCALP.

SCARLATINA.

VARIOLA.

RUBEOLA.

IRRITATING INJECTIONS ADMINISTERED TO THE AUDITORY CANAL.

GALVANISM.

ELECTRICITY.

The latter two have most particularly been enumerated as exciting causes when too freely used, for the removal of deafness. Inflammation is described to have arisen also from metastasis, in consequence of the sudden removal of ophthalmia or gonorrhea; likewise to have been excited by a carious tooth. Otitis occasionally arises during the progress or toward the termination of general acute disease, as continued or typhoid fevers.

This disease is occasionally seen to pass to the ear from the neighboring parts, and back again, forming an alternating biliary affection; it also alternates in children with cutaneous eruptions, and especially during dentition. Individuals of the scrofulous diathesis, the syphilitic taint, or having irritable mucous membranes, and those who are the subjects of cutaneous eruptions, are particularly predisposed to Otitis, but this predisposition is most remarkable in strumous children.

The symptoms and consequences of *Otitis* vary according to the structure of the part inflamed, and as these variations are very great, writers on the diseases of the ear are obliged, for the sake of greater perspicuity and ease to the student, to describe separately the diseases as they are locally situated, and hence the division of inflammation of the ear into *External* and *Internal* is not only justifiable, but absolutely necessary.

The presence of catarrhs or scrofulous matter in the Tympanum may be easily detected, when, in addition to the action of the *Internal Ear* and the healthy state of the membrane of the *Eustachian Tube*, it readily admits a sound or catheter, but does not transmit air, and a stylette or catgut sound introduced into the cavity when withdrawn is beset with a whitish material. In such a case, the attempt, frequently repeated, to

wash out the cavity with bland fluids, injected through the *Eustachian Tube*, might be attended with success, provided the abnormal deposit is confined to the tympanum.

The unnatural enlargement or diminution in the size of the cavity, and the variation in the structure or number of ossicles, will be altogether irremediable.

It will be advisable first to treat of the severer form of inflammation, with its acute effects; and then to discuss the milder, but very often the more insidious form of this disease.

The symptoms of the severer affection, to a certain extent, resemble those of *Otitis externa*, differing in consequence of the difference of the pathology of the affected structure; of their greater severity, and of the circumstances of the matter, after having, formed, not meeting with an easy outlet.

The symptoms are at one time ushered in by a severe pain in the Ear, which is often neglected, and regarded as being commonly what is called Ear-ache, and which may continue only for a few hours, or it may persist with occasional exacerbations for two or three days, when it suddenly more or less extends to the whole of that side of the head.

In other cases the symptoms commence with intense headache, or insupportable *Hemicrania*, the febrile excitement is most severe, the eyes are injected, watery, and intolerant of light; the countenance is flushed and anxious; the skin hot and dry; the pulse frequent and hard; the secretions are suspended; the pain becomes excessive and extends throughout the whole head, but is more severe on the side affected, and the patient particularly refers as the most painful part as the *auditory canal*; *tinnitus aurium* is a frequent distressing accompaniment; the pain is increased by noises, even the slightest, by the movements of the jaw, and attempts at deglutition; and it frequently shoots through the brain, and extends to the fauces; the disease is attended by delirium, often very violent at the outset, but toward the close becoming low, accompanied by mutterings and occasional rigors. In its progress the inflammation spreads to the mastoid process, which becomes hot and painful to the touch, as well as the pharynx, tonsils, &c., which are then tumefied and reddened. The severity of the symptoms frequently abates in the morning, a remission often accompanied by rigors coming on in the evening. The patient is also deaf on the affected side.

So far the symptoms, though indeed acute, are insufficient to distinguish inflammation of the tympanum, from the most severe form of *external otitis*; to perfect the diagnosis it is necessary to ascertain that the *auditory canal* is free from disease, and to take into consideration the longer interval of time between the first accession of pain and appearance of discharge.

In *external otitis* the mucous purulent secretion occurs in a few days, or even a few hours; in the internal disease, a week or more will elapse before any matter is discovered, and then it escapes suddenly either through the *Eustachian tube* or through the ulcerated mastoid cells, whereas in the *external disease* it is preceded by a serous moisture.

This may be considered as the first stage of the disease, and is that of inflammation, terminating in suppuration. It sometimes happens that timely treatment in a good constitution so lessens the inflammation that it terminates in a mucous secretion, or in resolution; but in the great majority of instances it passes on to suppuration, and the escape of pus may constitute the second stage.

The distressing symptoms are not relieved when suppuration is completed, in consequence of the pus or matter being still retained in the tympanic cavity; no certain data therefore exists by which it can be known that the secretion has taken place until it makes its exit, which may happen in a week, or may not occur until after two or three weeks.

The pus is discharged most frequently through the *membrana tympani*, either by rupture, to which it may be prone in consequence of its inflamed condition, or which is more common, by means of ulceration, which often takes place to a great extent. Itard has supposed that the greater frequency of the matter being discharged through the membrane than the *Eustachian tube* is ten to one.

The first stage of the inflammation generally closes the *Eustachian Tube* by adhesion, and hence the difficulty of the matter finding its exit in that direction. When the suppuration has extended back to the mastoid cells, the integument covering the mastoid process assumes a dark livid color, often attended with an indistinct fluctuation, ulceration, or even sloughing, may occur, or the abscess be opened artificially, when the matter, mixed with blood, finds an escape, accompanied by exfoliations of the cells.

The pus in all cases is offensive, and particularly disagreeable to the taste when passed through the passage into the larynx; occasionally the ossicles are discharged at the same time through the membrane or mastoid process, but they usually come away at a subsequent period.

When the case is favorable, the patient experiences a subsidence of his distressing symptoms as suddenly as the escape of matter occurs, and the improvement is in proportion to the freedom of the discharge, which varies either in consequence of the great consistence of the matter closing the opening in the membrane, or of inspissated fibrin, in the form of little crusts falling against the aperture.

On an examination of the Ear, the perforation may be generally seen, but sometimes that is impossible, in which case, however, air may usually be forced through it from the *Eustachian Tube*, forming bubbles in the matter; the absence of this sign is not to be depended upon, as a closure of the Tube will prevent the success of the experiment.

When the pus finds its way through the tubes, by forcing through the obstruction, or by ulceration, the quantity is sometimes so great, and so suddenly discharged, as to resemble the breaking of a tonalitic abscess, and the mucous-sano-purulent matter is expectorated. At other times it escapes by degrees, and there is a constant disagreeable sensation in the throat, with continual spitting.

Happy results may be expected when the matter is discharged into the throat, but when it escapes into the meatus, or through the mastoid process, it is almost certain that the ossicle, wholly or in part, will be lost, and that a troublesome chronic *Otorrhoea* will continue for a long period—sometimes even during life—giving rise to deafness, more or less complete, the extent of which depends upon the amount of disorganization.

This part of the subject will be more advantageously considered in treating of the chronic disease of the Tympanum.

"It but too frequently happens that the *otitis* upon which an unfavorable termination to this painful form of disease; the severe symptoms assume those characters indicating inflammation of the membranes of the brain, and after passing many hours, or a day or two, in a state," says an experienced aurist, "of delirium more or less raving, the patient falls into a condition of coma and thus expires." The symptoms alone are sufficient evidence that the disease has extended to the brain, and it appears, in most instances, to make itself a pathway either through the roof or the posterior wall of the Tympanic cavity.

In cases where this result is very rapid, the inflammation may occasionally extend from the lining membrane of the tympanum to the bone, thence to the *dura mater*, and thus life may be destroyed by meningitis or phrenitis; while in other cases the disease may terminate in suppuration either between the cranium and the *dura mater*, or between the cerebral membrane themselves, or in the substance of the brain.

Dissections of these cases, however, prove that the upper or posterior wall of the tympanum is generally destroyed, either by *neuritis*, or more frequently by caries, which condition corresponds to the more gradual extension of the disease to the brain; and particularly to the fact, that these fatal cases usually result from acute inflammation excited by a chronic affection.

"Some practitioners," Mr. Saunders says while treating of discharges, "are disposed to regard this as a trivial disease; others as too dangerous to allow the interference of art. Both are in error. It is without a disease destructive in its tendency to the faculty of Hearing."

It rarely stops until it has so much disorganized the Tympanum and its contents as to occasion total deafness. On this account it demands the most judicious attempts to arrest its progress, and it requires an amount of skill combined with enormous experience to be certain that these attempts should result in no bad consequences to the sufferer, for in the severe stage it is by far easier on account of the extensive inflammation which is its sure attendant, to aggravate rather than alleviate.

How a contrary opinion can prevail is indeed unaccountable; yet modern practitioners do not condemn the judicious attempts to cure it. What argument could ever have been adduced as it has been the general mode until very lately against the attempts to cure this disease, that is not equally conclusive in reference to all other inflammatory diseases? Is any one an abettor of the obsolete anatomical pathology? He will contend that stoppage of a drain which nature has established is pernicious, and the morbid matter will be determined on the internal parts. "But how can such a person," says Saunders, "venture on the treatment of any disease, even the healing of a common ulcer?" Some years ago I thought this absurd notion had exploded totally, for it has been constantly adduced to deter sufferers from seeking a cure for this discharge. Is a child the subject of it, the parent is told to leave it to nature, and they will outgrow it. Is it an adult, some other plea equally injurious and futile, is employed. "The truth is," says this Aurist, "the disease is always tedious and difficult, and not always easily curable, and many are disinclined to embarrass themselves with the case who have not candor enough to make a true statement."

Thus it is many sufferers who have this disease commencing in childhood allow it to grow with their growth and strengthen itself with maturity, who are induced to refrain from all attempts to relieve or cure it, until the disease in the first stage so easy of cure, to become obstinately impracticable, and even allow to run its own bad course and lead to the worst results.

The truth is, that the practices and the prejudices of the old times mix themselves with the more orderly and perfect operations of the present day, and this is a subject of study which we must not neglect. We have now leisure to observe how slowly aural diseases have been understood, or operations invented or improved. We can remark how slow and how imperfect was the anatomy and classification of aural diseases even to this day. At this moment we are employed in rooting the prejudices and ridiculous practices of the ancients, for the practice of the earlier aurists was marked by no effort being made to bring the diseased Ear under the influence of medicine, an indifference about the simple cure of deafness, and a passion for perforating the drum (see Sir Astley Cooper) and all the excesses of surgery.

Is it not most unaccountable to see men among us expecting to excel in a specialty of which their knowledge is so limited, eager to be known as improvers with, but having ripened their minds by studying the inventions of others? vain of their opinions, practices, and pathologies of disease, in which they are often excelled and anticipated by authors which they have never read? Many a busy creature do we see proclaiming as fine inventions of his own instruments which have been described, drawn, commented upon, condemned, neglected, and revived again, centuries before this new inventor of old things was himself born!

While he troubles the world with his inventions, he has every fault but that of designing ill, or committing any plagiarism; he is innocent of the knowledge of all old inventions.

Whoever has thus neglected the study of the history of our specialty, has a narrow mind, and prefers the little opinions of his particular master to the accumulated wisdom of ages; he dwells with enthusiasm upon those theories which have taken first possession of his mind, and is never able to emerge from the atmosphere of the particular school in which he was bred.

Much has been said about the qualifications of an Aurist, as if nature had not endowed us all with abilities equal to the common and necessary duties of life. On this favorite theme, however, authors have descended to little purpose, for those qualities which are most loudly praised are such as cannot be acquired, and have little relation to the abilities, dexterity, or knowledge of an Aurist. The elegant description of Celsus is not judicious, although it suits the times he wrote in; when Aurists were chiefly the assistants of physicians, who required of them chiefly a quick eye and a steady hand, and that unfeeling hardness, which is so well described by the "man strabus stabili nec unquam intermitente, animo intriduis immutabili."

No sooner do you take up the works of any author, and read them with proper diligence, than you perceive from the forms of his books the order and character of his studies. If he be a man unlearned in his profession, and have (as it is too much the custom), learned it only by hearsay, his tedious, unmeaning books will be soon thrown aside, they will indeed seldom fall into your hands. But if he be a perfect aurist, like those I have pleasure to set before you as examples,

then you will find all his remarks arranged, explained, illustrated and enforced with peculiar ardor; his perfect knowledge of the Ear brings all his experience into the most useful forms; his histories are plain and important; he dwells with judgment upon those points which are peculiarly difficult, and resolves them by continual reference to the structure and functions of the parts.

The most surprising cases become credible when he relates them; the most ordinary facts become instructive; we never read such an author without pleasure, as well as instruction; at every turn, in every difficult question we perceive his superior penetration, knowledge, decision, good conduct. It is far otherwise when we read the books of some others, whose histories are merely surprising tales, to which the want of anatomical knowledge of the structure of the Ear gives an air of romance.

Pathology is the work of the mind operating upon facts, comparing the sound and healthy structure with its diseased state. Every man will reason well and truly, in exact proportion to his acquired knowledge, and will act with sense and prudence, in exact proportion to his sound reasoning. The most uninformed reason according to their degree of knowledge. They reason seldom indeed, and their minds are not much engaged, they are never warmed by love of their profession, their exertions are without enthusiasm. But if you put in motion one whose mind is improved by study and ripe for practice; his powers rise in every perilous or agitated scene; his mind, even in the midst of confusion, and while he is busy with his hands, turning from point to point, from speculation to speculation. His reasoning is rapid and sure. It is like instinct, direct, active, effectual. He thinks, judges, resolves, and acts at once. He reaps advantage from his knowledge of the ear in health and disease, which (during the time of studying them), he did not believe to be so closely allied to practice; he goes onward, with an intrepidity, security and firmness, which he is delighted to feel. It is in the middle of scenes of difficulty that such a man, as educated, so inspired, becomes to be known.

In answer to the numerous inquiries, I have to state that the appendix to this work on Catarrh cannot appear until I have completed my observations on the following classifications:

- No. 1. GENERAL OBSERVATIONS.
- No. 2. DIVISION OF THE EAR.
- No. 3. VESTIBULE.
- No. 4. SEMICIRCULAR CANALS.
- No. 5. COCHLEA.
- No. 6. OTOLITHES AND OTOCONES.
- No. 7. TYMPANUM.
- No. 8. MEMBRANE OF THE TYMPANUM.
- No. 9. EUSTACHIAN TUBE.
- No. 10. OSSICULA OF THE EAR.
- No. 11. EXTERNAL EAR.
- No. 12. INNER WALL OF THE TYMPANUM.
- No. 13. POSTERIOR WALL OF THE TYMPANUM.
- No. 14. DEVELOPMENT OF MALFORMATION.
- No. 15. RAPIDITY OF SOUND.
- No. 16. LABYRINTH.
- No. 17. ACOUSTIC NERVE.
- No. 18. ACUTE OTITIS.
- No. 19. INFLAMMATION OF THE MEMBRANE TYMPANI.
- No. 20. INTERNAL OTITIS.
- No. 21. MUCOUS ENGORGEMENT OF THE MIDDLE EAR.
- No. 22. INFLAMMATION THROUGH THE EUSTACHIAN TUBE.
- No. 23. MY OWN MODE OF RESTORING HEARING TO THE DEAF.
- No. 24. ERYTHMATIC CHRONIC DISEASE.
- No. 25. CHRONIC INFLAMMATION WITH INORDINATE SECRETION.
- No. 26. INORDINATE CERUMENOUS SECRETION.
- No. 27. FOREIGN BODIES IN THE MEATUS.
- No. 28. POLYPUS, FUNGUS, VEGETATION OF THE CANAL.
- No. 29. CEREBRAL DISEASE FOLLOWING TYMPANITIS.
- No. 30. DELAUS DIVISIONS OF THE LESIONS OF THE MEDICAL EAR, WHICH OCCASION DEAFNESS.
- No. 31. CHRONIC INFLAMMATION OF THE EUSTACHIAN TUBE.
- No. 32. CONSTITUTIONAL TREATMENT OF THE DISEASE OF THE EAR.
- No. 33. CATHETERISM OF THE EUSTACHIAN TUBE.
- No. 34. EXCITED FUNCTIONAL DERANGEMENT OF THE ACOUSTIC NERVE.
- No. 35. FUNCTIONAL DERANGEMENT OF THE TYMPANIC NERVES.
- No. 36. THE MODE OF EXAMINING THE EAR BY AID OF SUNLIGHT.
- No. 37. RUPTURE OF THE MEMBRANA TYMPANI BY A GUN SHOT.
- No. 38. ABSCESSES IN THE CEREBELLUM.
- No. 39. TUMOR OF THE LOBTLE.
- No. 40. HEMATOCELE OF THE EXTERNAL EAR.
- No. 41. CAUSES OF OBSTRUCTION OF THE EUSTACHIAN TUBE.
- No. 42. THICKENED MUCOUS MEMBRANE.
- No. 43. RELAXED MUCOUS MEMBRANE.
- No. 44. OBSTRUCTION OF THE FACIAL ORIFICE FROM THICKENED NERVOUS MEMBRANE.
- No. 45. THE EXPLORATION OF THE TUBE.
- No. 46. DISCHARGE OF THE EAR.
- No. 47. RESULT OF OTITIS.
- No. 48. DUMBNESS WITH DEAFNESS.
- No. 49. FATTY ENLARGEMENT OF THE EAR.
- No. 50. DEAFNESS CAUSED BY PARALYSIS OF THE FACIAL NERVE.
- No. 51. BRAIN DISEASE CAUSED BY AFFECTIONS OF THE EAR.
- No. 52. CANCEROUS AFFECTIONS OF THE AURICLE.
- No. 53. CATARRHAL AFFECTION OF THE THROAT AND EAR.
- No. 54. DEAFNESS CONNECTED WITH DISEASES OF THE THROAT.
- No. 55. TORPID FUNCTIONAL DERANGEMENT OF THE ACOUSTIC NERVE.

The course of investigation which has been pursued by me, shows that a proper classification and a proper description of every disease will enable every practitioner to detect the cause of impediment of hearing, and at the same time restore that function to its natural state, and be a blessing to the community.

(To be Continued.)